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INTRODUCTION

This chapter seeks to determine the current legal status of the principle of sustainable development in international law. There has been considerable debate about the legal nature of the principle of sustainable development as well as its meaning. Is it really a legal principle? These debates are related because the rather vague and ambiguous terminology makes a straightforward legal implementation or application of the principle of sustainable development in legal practice difficult. Legal scholars have labelled 'sustainable development' a concept,[1] a goal,[2] a policy objective,[3] a guideline,[4] an ideal,[5] a meta-principle,[6] a weak norm of international law,[7] a concept or principle of customary law,[8] or a legal principle.[9] Much depends on the respective author's view of the normative power of the principle and the practical consequences for day-to-day legal decision-making.

Since its rise in international environmental law in 1992, sustainable development has been increasingly referred to by drafters of environmental and other treaties as well as by international and domestic courts. Has this increasing reference led to a stronger normative power and a stronger legal status of the principle and, if so, what does this imply for environmental decision-making at the international level? This question will be addressed through traditional legal desk study methodology as follows:

- a description of the emergence of sustainable development in soft law instruments
- a description of the references to sustainable development in legally binding international instruments as in multilateral conventions
- a description of the references to sustainable development in decisions by courts and tribunals

- an analysis of these instruments and decisions whose aim is to determine the status of sustainable development as a legal norm.

THE EMERGENCE OF THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT IN SOFT LAW: THE STOCKHOLM DECLARATION AND BEYOND

1. Introduction

The number of publications in the field of law that deal with sustainable development or sustainability has reached staggering proportions![10] Most of these publications start by searching for the roots of the principle. Some go back for centuries,[11] but most start in the year 1972. That year saw the publication of the influential report *Limits to Growth* by the Club of Rome in which it was argued that current economic and population growth trends harm the environment in such a way that it will constrain further economic growth. The report searched for a 'sustainable world system',[12] and concluded that 'it is possible to alter these growth trends and to establish a condition of ecological and economic stability that is sustainable far into the future'.[13] In their famous article in *The Ecologist* in that same year, Goldsmith and colleagues wrote:

> Our task is to create a society which is sustainable and which will give the fullest possible satisfaction to its members. Such a society by definition would depend not on expansion but on stability. This does not mean to say that it would be stagnant – indeed it could well afford more variety than does the state of uniformity at present being imposed by the pursuit of technological efficiency. We believe that the stable society … , as well as removing the sword of Damocles which hangs over the heads of future generations, is much more likely than the present one to bring peace and fulfilment which hitherto have been regarded, sadly, as utopian.[14]

2. From 1972 to 1982

In 1972 the Stockholm Declaration on the Human Environment was adopted during the first United Nations (UN) conference on the environment.[15] This early international environmental law instrument does not mention the words 'sustainable development' as such but it does, in its preamble, acknowledge that 'in our time, man's capability to transform his surroundings, if used wisely, can bring to all peoples the benefits of development and the opportunity to enhance the quality of life'. The Declaration argues that 'to defend and improve the human environment

for present and future generations has become an imperative goal for mankind – a goal to be pursued together with, and in harmony with, the established and fundamental goals of peace and of worldwide economic and social development'.[16] Principle 1 then puts this in legal terms. Man bears the responsibility 'to protect and improve the environment for present and future generations'. Principle 2 adds that 'the natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate'.

For the first time, three years later in 1975, a United Nations Environment Programme (UNEP) decision explicitly used the term 'sustainable development'. In these words: 'environmental management implies sustainable development of all countries, aimed at meeting basic human needs without transgressing the outer limits set to man's endeavours by the biosphere'.[17] In 1980, the International Union for the Conservation of Nature (IUCN), with the support of several UN organisations, drafted the World Conservation Strategy. This had as a subtitle: 'Living Resource Conservation for Sustainable Development'. This led to the adoption of the World Charter for Nature in 1982. The term 'sustainable development' does not appear prominently in the latter document.

3. The Brundtland Report 1987

Although the term does not remain unmentioned in international documents throughout the first half of the 1980s,[18] the explicit acknowledgement of 'sustainable development' as the central objective of future environmental policies came in 1987, with the publication of the report of the World Commission on Environment and Development (WCED) entitled *Our Common Future* (also known as 'the Bundtland Report'). In this report, sustainable development was described as a 'concept'[19] and as 'a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations'.[20] The work of the WCED was inspired by an urgent call of the General Assembly of the United Nations to 'help define shared perceptions of long-term environmental issues and the appropriate efforts needed to deal successfully with the problems of protecting and enhancing the environment, a long-term agenda for action during the coming decades and aspirational goals for the future'.[21] The WCED clearly came up with such an aspiration by

holding man responsible for the future of the earth and by stating that today's generation may not fulfil its needs while endangering the possibility for future generations to fulfil their needs.[22] Sustainable development at the same time focuses on present generations. Accordingly economic growth should be achieved in nations in which the majority is poor and these poor should get their fair share of the resources required to sustain their economic growth.[23]

4. The Rio Declaration 1992

Given the influence of the WCED's report, especially in UN circles, it is not remarkable that 'sustainable development' emerged as the key underlying concept during the 1992 UN Conference on Environment and Development (UNCED) in Rio de Janeiro.[24] The Rio Declaration on Environment and Development mentions the words 'sustainable development' explicitly 12 times. According to principle 1, 'human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature'. Principle 4 codifies the integration principle in these words: 'In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it'. Sustainable development is here presented as the goal of the integration principle.

5. Rio+20: 2012

Up until 1992, the principle of sustainable development appeared mostly in soft law documents. This has continued to be true. The 2002 Johannesburg Declaration on Sustainable Development is, as its name suggests, all about sustainable development.[25] The major difference compared with its predecessor of 1992 is that this declaration has softer legal language. For instance it does not refer to 'principles'. The 2012 UN Conference on Sustainable Development, again in Rio de Janeiro and often referred to as Rio+20, produced an even softer legal 'outcome document' entitled *The Future We Want*.[26] This document reaffirms the Rio Principles and refers to these principles several times but without explicitly mentioning the principle of sustainable development.

6. Conclusion

The foregoing paragraphs are based solely on these international soft law documents. Accordingly it cannot be argued that the principle of

sustainable development has been recognized as a legally binding principle of law. The most clear and authoritative reference to the principle was contained in the Rio Declaration. In its statement of 'principles', it regularly refers to sustainable development as a goal to be attained by the implementation of more concrete principles. These include the integration principle mentioned above, as well as – for example – the precautionary principle stated in principle 15, the polluter pays principle stated in principle 16, and the environmental impact assessment principle stated in principle 17.

THE ADOPTION OF THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT IN LEGALLY BINDING CONVENTIONS

1. Introduction

Since 1992 the principle of sustainable development started to emerge in binding international law instruments and in international and domestic case law as well. The following paragraphs describe the emergence of the principle in binding legal instruments with the aim of determining the legal status of the principle. Accordingly they will review binding international law instruments to see whether the concept of sustainable development is accepted as a legally binding principle. The discussion incorporates a review of environmental law conventions followed by a review of other international law instruments, especially trade law agreements and regional treaties.

2. Environmental Law Conventions

(a) Biological diversity and climate change

The two legally binding conventions adopted in 1992 at the Rio Conference are the Convention on Biological Diversity (CBD)[27] and the UN Framework Convention on Climate Change (UNFCCC)[28] and their associated protocols. These instruments regularly refer to sustainable development. In the CBD, 'sustainable use' is defined as 'the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations'.[29] Almost all of the provisions of the CBD show that policies and measures have to be aimed at achieving a sustainable use. Article 6, for example, lists the 'general measures for conservation and

sustainable use', whereas article 10 lays down the duties of the parties on the sustainable use of components of biological diversity.

The Cartagena Protocol to the CBD has multiple references to 'the conservation and sustainable use of biological diversity' in several of its specific and legally binding rules, such as the rule that the state of import may review its decision regarding a transboundary movement of a living genetically modified organism at any time, 'in light of new scientific information on potential adverse effects on the conservation and sustainable use of biological diversity'.[30] The same is true of the Nagoya Protocol, which, for instance, provides that 'the Parties shall encourage users and providers to direct benefits arising from the utilization of genetic resources towards the conservation of biological diversity and the sustainable use of its components'.[31]

Turning to the UNFCCC, article 2 states the objective of the convention: stabilization of greenhouse gas concentrations with the aim to 'enable development to proceed in a sustainable manner'. Article 3 is entitled 'Principles'. It primarily codifies the principle of common-but-differentiated responsibilities by referring to both elements of the definition of sustainable development by the WCED: it includes in paragraphs 1 and 2 the principles of intergenerational and intragenerational equity. Paragraph 4 states that 'parties have a right to, and should, promote sustainable development'. From a legal point of view, the latter is a somewhat peculiar provision, entailing both a right and a duty for state parties, albeit in the article on 'principles'. It thus mixes up no less than three different types of legal norms in one short sentence. The fifth and last paragraph of article 3 codifies the cooperation principle, again with the aim to achieve sustainable economic development.[32] Article 4 lists the specific obligations: amongst others, the duty of all states to 'promote sustainable management … of sinks and reservoirs of all greenhouse gases … , including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems'.[33] National mitigation policies in developed countries have to aim at maintaining strong and sustainable economic growth.[34]

The Kyoto Protocol, the instrument that set binding reduction targets for the countries listed in Annex I to the UNFCCC, refers extensively to sustainable development.[35] The reference to sustainable development in the provision on the clean development mechanism (CDM) is especially significant. This instrument allows Annex I states to achieve part of their emission reduction target through projects in developing countries, so long as these projects, besides achieving a reduction of greenhouse gas emissions, achieve sustainable development in the developing country hosting the CDM project.[36] There is an extensive approval process, part

of which focuses on the requirement that sustainable development must be achieved. This includes that the project developer must obtain confirmation from the competent authority in the developing country that the project activity assists in achieving sustainable development.[37] This requirement met with much criticism once it was established that clearly unsustainable projects, for instance leading to human rights violations, had been carried out.[38] In an effort to ensure that the project would lead to a sustainable development, the CDM Executive Board in 2014 launched a voluntary online tool for highlighting the sustainable development benefits of the CDM in a 'structured, consistent, comparable and robust manner', primarily by asking the project developers to respond to a checklist of predefined sustainability indicators – the 'SD Tool'.[39]

(b) Fisheries and the marine environment

In the area of the marine environment, the term 'sustainable yield' is used extensively in relation to fisheries and preserving fish stocks. The UN Convention on the Law of the Sea, for example, requires states to take measures within their exclusive economic zone (EEZ) 'to maintain or restore populations of harvested species at levels which can produce the maximum sustainable yield'.[40] Maximum sustainable yield is a theoretical concept and has been used extensively in fisheries science and management since the 1930s.[41] The use of the word 'sustainable' in maximum sustainable yield, therefore, pre-dates the emergence of the principle of sustainable development and has a very specific meaning. In fisheries, maximum sustainable yield indicates the maximum catch that can be removed from a population over an indefinite period without depleting the population.[42]

Since 1992, however, the broader concept of sustainable development has been infiltrating fisheries-related conventions. Probably the best example is the 1995 Agreement on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.[43] Sustainable development is the overarching objective of the Agreement and is the basis for more specific obligations imposed on the parties, such as: to adopt measures to ensure long-term sustainability of fish stocks; to ensure that measures are based on the best scientific evidence available and are designed to maintain or restore stocks at levels capable of producing maximum sustainable yield, as qualified by relevant environmental and economic factors, including the special requirements of developing states; to apply the precautionary approach; to minimize pollution, waste, discards, catch by lost or abandoned gear; and to take into account the interests of artisanal and subsistence fishers.[44]

Another example is the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). It mentions sustainable development: albeit only in Annex V about the protection and conservation of the ecosystems and biological diversity of the maritime area. This Convention was adopted in 1998.[45] In December 2014, the UN General Assembly adopted a resolution on sustainable fisheries that calls on states to take actions to address unsustainable fishing practices, climate change and ocean acidification.[46]

(c) Post-1992 developments

A number of environmental conventions concluded since 1992 refer to the principle of sustainable development in several ways. The Stockholm Convention on Persistent Organic Pollutants, for example, allows developing country parties to give precedence to sustainable economic and social development over full and effective implementation of their commitments under the Convention.[47] The UN Convention on the Law of the Non-navigational Uses of International Watercourses recognizes sustainable utilization as the main objective.[48] The Protocol on Strategic Environmental Assessment to the Espoo Convention on Environmental Impact Assessment in a Transboundary Context has as its objective to integrate – by means of strategic environmental assessment – environmental and health concerns into measures and instruments designed to further sustainable development.[49]

It should be noted, however, that there are important post-1992 international environmental instruments that do not refer to sustainable development: for example the Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment.[50] Some instruments refer to sustainable development only in their preamble: for example the London Protocol on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter[51] and the Aarhus Convention on Access to Information, Public Participation and Decision-Making and Access to Justice in Environmental Matters.[52]

3. Other International Treaties: the WTO

Since sustainable development is all about integrating environmental and developmental concerns, it is appropriate to consider non-environmental instruments to assess whether the principle of sustainable development has had an impact on treaties with primarily an economic purpose. Probably the most significant instruments in this regard are the World Trade Organization (WTO) instruments. The 1994 Agreement Establishing the WTO refers to sustainable development only in the preamble. The

Agreement starts by recognizing that trade and economic endeavour should allow 'for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment'.[53] Although these are very clear intentions, integrating environmental concerns into international trade law, as currently discussed in the Doha Round of negotiations on trade and the environment, is a cumbersome process.[54] Nevertheless, the WTO Appellate Body did expand the potential for environmental measures to restrict trade.[55] These developments are discussed below in relation to how the principle of sustainable development has influenced international case law.

4. Regional Environmental Law

(a) Africa, America and Asia

Most regional organizations have adopted sustainable development as one of their core aims. One of the objectives of the African Union (AU), laid down in the Constitutive Act of the African Union, is to 'promote sustainable development at the economic, social and cultural levels as well as the integration of African economies'.[56] There are only a few concrete principles or binding rules that are explicitly aimed at sustainable development within the AU legal system. The African Charter on Human and Peoples' Rights of 1981 has two separate rights: a right to a satisfactory environment in article 24 and a right to development in article 22. Some commentators suggest that one approach is to implement and achieve these two rights in an integrated way by using sustainable development as the linking pin.[57]

The Organisation of American States has soft law instruments aimed at achieving sustainable development.[58] The most important are the Inter-American Program on Sustainable Development (PIDS)[59] and the Declaration of Santo Domingo for the Sustainable Development of the Americas.[60] In similar fashion within the ASEAN (the organization of southeast Asian states), sustainable development is for the most part addressed by soft law instruments, especially by the Declaration on Environmental Sustainability.[61] Sustainable development in these instruments, however, 'cannot yet be said to have acquired a normative content in the region, either at the level of legislative development or in judicial decisions'.[62]

(b) The European Union

The approach in the European Union (EU) has been remarkably different. In 1997 sustainable development[63] received a firm place in legally

binding instruments. Currently, sustainable development is embedded in the EU's constitutive treaties: the Treaty on the European Union (TEU), the Treaty on the Functioning of the European Union (TFEU) and the Charter of Fundamental Rights. These are considered in turn.

The preamble to the TEU refers to the 'principle of sustainable development'.[64] Article 3 then mentions sustainable development as the main goal of the EU's internal market: the EU 'shall work for the sustainable development of Europe'.[65] A similar goal has to be achieved with the EU's external relations policies.[66] Finally, article 21, states that the EU's foreign policy must foster the sustainable economic, social and environmental development of developing countries and help develop international measures to preserve and improve the quality of the environment and the sustainable management of global natural resources, in order to ensure sustainable development.[67]

Consider some of the more detailed provisions in the TEU. Given the very broad and general wording of these provisions in the TEU, it is generally thought that the concept of sustainable development in these provisions cannot be regarded as a normative-legal concept,[68] nor can precise obligations be deduced from article 3.[69] The provision rather serves as a guideline to policy. In the EU's sustainable development strategies of 2001[70] and 2006,[71] as well as the 2009 review by the European Commission of these strategies, sustainable development is characterized as 'the overarching long-term goal' of the EU.[72] The 2009 review shows that, despite the relatively weak legal character of article 3, the adoption of sustainable development as an overarching policy goal has been successful.

In recent years, the EU has demonstrated its clear commitment to sustainable development. The European Commission has found that the EU:

> has successfully mainstreamed this sustainability dimension into many policy fields. The EU's climate change and energy policies are evidence of the impact that sustainable development strategy has had on the political agenda. The EU has started to integrate the sustainability dimension in many other policy fields also.[73]

The current general strategy indicated for the EU in the instrument entitled 'Europe 2020' has sustainable development as a central theme together with a strong emphasis on resource efficiency and a low carbon economy.[74]

The TFEU contains more specific provisions on the various policy areas of the EU and this includes environmental policy. It codified a

series of legal principles that play an important role in EU environmental law and policy. The integration principle was codified in article 11 TFEU. This provision makes it clear that the achievement of sustainable development is the ultimate aim of integrating environmental considerations in all EU policies:[75] 'environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development'. In the provision that lists the principles of EU environmental law, sustainable development is not mentioned. Here there is reference only to the principle of a 'high level of protection', the precautionary principle, the prevention principle, the principle that environmental damage should be rectified at source, and the polluter pays principle.[76] Interestingly, the Sustainable Development Strategy of 2006 mentioned above not only lists some of these principles but also describes them as 'policy guiding principles'. These include the precautionary principle and the polluter pays principle.[77] This shows that these legal principles are considered to be important by giving substance – flesh and blood – to the concept of sustainable development.

The third constitutive document of the EU, the Charter of Fundamental Rights, refers to sustainable development in the preamble and in article 37.[78] The preamble states that the EU 'seeks to promote balanced and sustainable development and ensures free movement of persons, services, goods and capital, and the freedom of establishment'. Article 37 codifies the right to an adequate environment by imposing a duty on the organs of the EU: 'A high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development'. The wording of this provision shows that the various constitutive documents of the EU do not use consistent terminology. The Charter and the preamble to the TEU refer to the 'principle' of sustainable development, whereas the TFEU, which lists all the 'principles' of environmental law, does not mention that principle but rather refers to sustainable development as an overarching policy goal. This is similar to article 3 TEU and the various policy documents on sustainable development.

The last issue is the way a range of the legal instruments of the EU refer to sustainable development. Many of these instruments refer to the principles mentioned in the treaties, including the principle of sustainable development. These references appear both in the recitals and in the substantive provisions. The Environmental Liability Directive, for example, states in recital 2 that 'the prevention and remedying of environmental damage should be implemented through the furtherance of

the "polluter pays" principle, as indicated in the Treaty and in line with the principle of sustainable development'.[79] Article 1 of the Strategic Environmental Assessment Directive states that its objective is 'to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment'.[80]

JUDICIAL ANALYSIS OF THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT

1. Introduction

Given the widespread use of the concept of sustainable development in international law since 1992, it can be expected that courts and tribunals have started to refer to sustainable development in their judicial reasoning. This could shed more light on the legal status of the concept. Do courts consider sustainable development as a legal principle? This chapter does not give a complete overview of all relevant cases decided by international and domestic courts. Instead, it provides important examples that show how judicial institutions have integrated the principle of sustainable development into their judgments. The main focus is on international courts and tribunals – particularly the International Court of Justice, the Permanent Court of Arbitration, the International Tribunal on the Law of the Sea and the WTO Appellate Body. There then follow some references to the approach adopted by regional and domestic courts.

2. International Courts and Tribunals

(a) International Court of Justice (ICJ)

In its most important judgment in an environmental case so far, the ICJ relied heavily on 'the objective of sustainable development'.[81] In the *Pulp Mills* case between Argentina and Uruguay, decided in 2010, the court had to interpret the meaning of article 27 of the 1975 Statute of the River Uruguay. This stipulates that the 'right of each party to use the waters of the river, within its jurisdiction, for domestic, sanitary, industrial and

agricultural purposes shall be exercised without prejudice to the application of the procedure laid down in Articles 7 to 12 when the use is liable to affect the regime of the river or the quality of its waters'.[82] Argentina argued that the range of legal principles to be applied to interpret the 1975 Statute included 'the principles of sustainable development, prevention, precaution and the need to carry out an environmental impact assessment'.[83]

The ICJ referred, first, to its previous order in this case in which it argued that use of the river 'should allow for sustainable development which takes account of "the need to safeguard the continued conservation of the river environment and the rights of economic development of the riparian State"'.[84] In this respect the court followed its 1997 decision in the *Danube Dam* case in which the court had stated that there is a need to reconcile economic development with protection of the environment – a need 'aptly expressed in the concept of sustainable development'.[85]

Based on these earlier references to sustainable development, the court found in the *Pulp Mills* case that the formulation of article 27 of the Statute reflected not only:

> the need to reconcile the varied interests of riparian States in a transboundary context and in particular in the use of a shared natural resource, but also the need to strike a balance between the use of the waters and the protection of the river consistent with the objective of sustainable development … Consequently, it is the opinion of the Court that Article 27 embodies this interconnectedness between equitable and reasonable utilization of a shared resource and the balance between economic development and environmental protection that is the essence of sustainable development.[86]

This is a remarkable and far-reaching interpretation by the court. It basically inserts the 'objective' of sustainable development into the text of the 1975 Statute.[87]

(b) Permanent Court of Arbitrage

The most relevant decision of the Permanent Court of Arbitrage (PCA) on the principle of sustainable development is the *Iron Rhine* arbitration between Belgium and the Netherlands. This case was about the reactivation of an abandoned railway line from Antwerp to Germany across Dutch territory. Belgium wanted to reactivate the railway line for economic purposes and relied upon the 1839 Treaty of Separation between the two states. The Treaty guaranteed continued use of the railway line, despite the separation. The Netherlands, on the other hand, had ecological objections because the track crossed several protected areas.[88]

In its award, the tribunal explicitly dealt with the principle of sustainable development – not only its content but also its legal status. The tribunal stated:[89]

> There is considerable debate as to what, within the field of environmental law, constitutes 'rules' or 'principles'; what is 'soft law'; and which environmental treaty law or principles have contributed to the development of customary international law. Without entering further into those controversies, the Tribunal notes that in all of these categories 'environment' is broadly referred to as including air, water, land, flora and fauna, natural ecosystems and sites, human health and safety, and climate. The emerging principles, whatever their current status, make reference to conservation, management, notions of prevention and of sustainable development, and protection for future generations.

Referring to the ICJ's use of the concept of sustainable development in the *Danube Dam* case, the tribunal then noted that 'environmental law and the law on development stand not as alternatives but as mutually reinforcing, integral concepts, which require that where development may cause significant harm to the environment there is a duty to prevent, or at least mitigate, such harm'. According to the tribunal, this duty had become a principle of general international law.[90]

This conclusion had far-reaching consequences for the final decision in this case because the tribunal, later in the award, referred back to the duty to prevent environmental damage in decisions on economic development: 'Today, in international environmental law, a growing emphasis is being put on the duty of prevention'.[91] As it was obvious that the proposed new use of the old railway would have a negative impact on the environment, the tribunal concluded that the 'reactivation of the Iron Rhine railway cannot be viewed in isolation from the environmental protection measures necessitated by the intended use of the railway line. These measures are to be fully integrated into the project and its costs'.[92]

(c) International Tribunal on the Law of the Sea

It has already been noted in relation to international fisheries instruments that the terms 'sustainable yield' and 'sustainable use' in the context of fisheries pre-date the rise of the concept of sustainable development and that a specific meaning has been attributed to them. It is no surprise that the principle of sustainable yield plays an important role in the various decisions by the International Tribunal on the Law of the Sea (ITLOS) on fisheries disputes.[93] It also is discussed by the ICJ in the *Whaling* case.

In a recent advisory opinion, the ITLOS expressed its view on the meaning of the term 'sustainable management' as laid down in the

There is no footnote with the whaling case, nor is the case in the list of cases. Perhaps delete this short sentence ("It also ....Whaling case")?

Convention on the Determination of the Minimal Conditions for Access and Exploitation of Marine Resources within the Maritime Areas under Jurisdiction of the Member States of the Sub-Regional Fisheries Commission ('the MCA Convention'). The tribunal observed that the ultimate goal of sustainable management of fish stocks is to conserve and develop them as a viable and sustainable resource.[94] This means, first, that parties to the Convention have to assure the maintenance of shared stocks, through conservation and management measures; second, that they must take conservation and management measures based on the best scientific evidence available; and, third, that, when such evidence is insufficient, they must apply the precautionary approach.[95] In addition, 'conservation and management measures are to be designed to maintain or restore stocks at levels which can produce the maximum sustainable yield, as qualified by relevant environmental and economic factors, including the economic needs of coastal fishing communities'.[96]

On the one hand, the tribunal suggested that the states involved should develop a sustainable fisheries management regime and that this might include the development of responsible fisheries, aimed at ensuring the long-term sustainability of exploited stocks and stock restoration.[97] On the other hand, it is remarkable that no reference was made to sustainable development in non-fisheries cases in which environmental issues played a major role: such as the *MOX Plant* case, the *Singapore Land Reclamation* case and the *Arctic Sunrise* case.[98]

(d) WTO Appellate Body

Although, as noted earlier in this chapter, the debate about the integration of environmental objectives into trade law has been ongoing for many years without much progress, the WTO Appellate Body has made a landmark decision in relation to the principle of sustainable development. In the famous *US Shrimp Turtle* case, the Appellate Body used the reference to the objective of sustainable development in the preamble to justify an interpretation of all relevant WTO law in the light of the principle.

In this case the United States, as well as the European Community – now the European Union – asked the Appellate Body to take the principle into consideration in deciding the case, despite the use of different wording. The United States argued that an 'environmental purpose is fundamental to the application of Article XX, and such a purpose cannot be ignored, especially since the preamble to the Marrakesh Agreement Establishing the World Trade Organization acknowledges that the rules of trade should be "in accordance with the objective of sustainable development" and should seek to "protect and preserve the environment"'.[99]

Interestingly, the United States avoided using the term 'principle' but instead used the word 'objective' – an approach more consistent with the text of the preamble.

The European Community specifically referred to sustainable development as a principle: an approach – more or less – in line with EU law. As the Appellate Body itself said, 'the principle of sustainable development, also laid down in the first paragraph of the preamble to the WTO Agreement, as well as the precautionary principle, play an important role in the implementation of all EC policies'.[100] The Appellate Body followed these arguments and gave great weight to the paragraph of the preamble which refers to the objective of sustainable development.[101] In its words, 'as this preambular language reflects the intentions of negotiators of the WTO Agreement, we believe it must add colour, texture and shading to our interpretation of the agreements annexed to the WTO Agreement, in this case, the GATT 1994'.[102]

Colour, texture and shading! These may prove to be prescient for the future. What interpretative approach does the Appellate Body suggest? It is clear that the Appellate Body, at least in theory, allows for far-reaching interpretation of the WTO rules in the light of the objective of sustainable development. What this means becomes clear, for instance, when the Appellate Body discussed the interpretation of the term 'conservation of exhaustible natural resources' in article XX(g) of the GATT 1994. It did so in these words:

> Given the recent acknowledgement by the international community of the importance of concerted bilateral or multilateral action to protect living natural resources, and recalling the explicit recognition by WTO Members of the objective of sustainable development in the preamble of the WTO Agreement, we believe it is too late in the day to suppose that Article XX(g) of the GATT 1994 may be read as referring only to the conservation of exhaustible mineral or other non-living natural resources … We hold that, in line with the principle of effectiveness in treaty interpretation, measures to conserve exhaustible natural resources, whether living or non-living, may fall within Article XX.[103]

It is equally interesting to note that the Appellate Body, albeit in two footnotes, explained that the 'objective of sustainable development' basically means that economic and social development and environmental protection have to be integrated.[104] Despite this potentially far-reaching use of the principle or objective of sustainable development, judicial interpretation of the WTO rules makes it clear that in practice it

is extremely difficult to integrate environmental protection measures into trade policies while at the same time complying with WTO rules on free trade.[105]

3. Regional and Domestic Courts

(a) Court of Justice of the European Union

Probably the most developed case law on the principles of environmental law at the regional level is that of the Court of Justice of the European Union (CJEU). This will not come as a surprise given that environmental principles have been firmly embedded in the various EU treaties. A review of the case law on these principles, however, shows that practically all cases have been decided by relying on more specific principles, such as the prevention principle and the precautionary principle.[106] The CJEU refers often to the principle of sustainable development – a search in the database shows 52 hits[107] – but these are almost always references to texts in treaties, directives or regulations that refer to the principle. There has been no further substantive discussion about the meaning of the principle or about the impact the principle has in the specific case.[108]

The CJEU has sometimes referred to the principle of sustainable development as laid down either in the treaties or in more specific legal instruments to underpin its interpretation of specific obligations. Consider this judicial comment in the *Green Network* case decided in 2014:

> Nevertheless, it is also important to consider that, as Article 1 of Directive 2001/77 makes clear, that directive seeks to promote an increase in the contribution of renewable energy sources to electricity production in the internal market for electricity. Recital 1 in the preamble to that directive emphasises that the potential for the exploitation of renewable energy sources is presently underused in the Community and it recognises the need to promote renewable energy sources as a priority measure, given that their exploitation contributes to environmental protection and sustainable development and can, in addition, also create local employment, have a positive impact on social cohesion, contribute to security of supply and make it possible to meet Kyoto targets more quickly.[109]

A case in which the 'objective' of sustainable development did play a major role was the relatively old *First Corporate Shipping* case decided in 2000. At that time, sustainable development was listed in article 2 of the EC Treaty as a goal of the European Community but clearly not as a principle. In this case, the court had to give a preliminary ruling on the question whether member states had to take into account economic and

social interests when drafting a list of protected areas under the EU Habitats Directive.

In his opinion, the Advocate General of the court referred, first, to one of the recitals in the preamble to the Habitats Directive, which expressly states that the Directive, the aim of which is to 'promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements', makes 'a contribution to the general objective of sustainable development'.[110] The Advocate General then explained what the concept of sustainable development means:

> The concept sustainable development does not mean that the interests of the environment must necessarily and systematically prevail over the interests defended in the context of the other policies pursued by the Community in accordance with Article 3 of the EC Treaty … On the contrary, it emphasises the necessary balance between various interests which sometimes clash, but which must be reconciled.[111]

The next question was how to reconcile these interests. After having referred to environmental policy documents and the Brundtland Report, the Advocate General referred to the integration principle, which offered a means of actual reconciliation:

> To reconcile these diverse interests in the context of sustainable development the Treaty on European Union introduced the principle of integration in article 130R(2) – now article 11 TFEU. That principle requires the Community legislature to conform with environmental protection requirements in the definition and implementation of other policies and actions. Integration of the environmental dimension is thus the basis of the strategy of sustainable development enshrined in both the Treaty on European Union and the Fifth Environment Programme.[112]

The Advocate General directed his attention to the second stage of the designation process, which takes place at the level of the EU agencies. In doing so, he identified the necessary steps in designating a protected area. Two obligations were imposed on the European Commission and its member states. The first was to observe 'the objective of sustainable development and the principle of integration' and the second was to ascertain 'whether or not the maintenance of human activities in the area concerned may be reconciled with the objective of conservation or restoration of natural habitats and wild fauna and flora, and drawing the necessary consequences'. Significantly, the references were to sustainable development and integration.

(b) Regional human rights courts

The principle of sustainable development does not in itself seem to play a major role in the case law that emerges from the various regional human rights instruments. This is particularly true of the European Court of Human Rights. This court does not explicitly refer to sustainable development in its extensive and impressive environmental case law.[113] It is somewhat different in the African region. In the *SERAC* case, which concerned the environmental impacts associated with oil production in Ogoniland in Nigeria, the African Commission on Human and Peoples' Rights explained the meaning and role of the right to a satisfactory environment laid down in article 24 of the African Charter on Human and Peoples' Rights. The Commission stated that article 24 requires states 'to take reasonable and other measures to prevent pollution and ecological degradation, to promote conservation, and to secure an ecologically sustainable development and use of natural resources'.

This interpretation suggests that the principle of sustainable development may be used as a means to reconcile the right to development and the right to a satisfactory environment. Significantly both of these rights have been directly incorporated in the African Charter.[114] Rather differently, cases emerging from the Inter-American Human Rights system do not seem to have paid a great deal of attention to the principle of sustainable development. However, a recent study concludes that the procedural rights that have been acknowledged in environmental cases enable local communities to direct major development projects in a more sustainable direction.[115]

(c) Domestic courts

It is not the purpose of this chapter to review systematically any relevant domestic case law. There are many countries in which courts have relied on the principle, notion or objective of sustainable development: for instance Brazil,[116] Argentina,[117] New Zealand[118] and Pakistan.[119] There is particular merit in discussing briefly the recent judgment by a Dutch court in the *Urgenda* case. This case shows how the principle of sustainable development can influence judicial reasoning on the issue of standing in a case where international environmental law – the UNFCCC, in this case – applies.

Urgenda is a citizen's platform. In legal terms it is a foundation with the aim 'to stimulate and accelerate the transition processes to a more sustainable society, beginning in the Netherlands'. In a public interest suit, the foundation sued the State of the Netherlands and asked the court to rule that current Dutch policies to reduce greenhouse gases are not strict enough and to order the state to achieve a larger reduction by 2020.

Because of the occurrence of the word 'sustainable society' in the foundation's bylaws and because the claim was partly brought on behalf of future generations, the court, when deciding on the foundation's standing, dealt with the principle of sustainable development but without calling it a principle.

In its analysis the court relied on two authoritative sources. The first was the focus on sustainable development in articles 2 and 3(4) of the United Nations Convention on Climate Change.[120] The second was the definition of 'sustainability' in the Brundtland Report.[121] The court accepted Urgenda's standing in this case in these words:

> In defending the right of not just the current but also the future generations to availability of natural resources and a safe and healthy living environment, it also strives for the interest of a sustainable society. This interest of a sustainable society is also formulated in the legal standard invoked by Urgenda for the protection against activities which, in its view, are not 'sustainable' and threaten to lead to serious threats to ecosystems and human societies.[122]

This example shows how references to sustainable development in international conventions – such as the UNFCCC – and even in non-binding documents – such as the Brundtland Report – can have an impact on judicial decisions in a domestic context.

ANALYSIS: CURRENT LEGAL STATUS AND THE POTENTIAL FUTURE ROLE OF THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT

As predicted in the introduction to this chapter, the foregoing analysis, first, of internationally binding and non-legally binding instruments and, second, of judgments by international and domestic courts and tribunals discloses an increasing number of references to sustainable development. These references are not necessarily to the principle of sustainable development. Sustainable development is also regularly referred to as a concept, an objective or otherwise. Have these increasing references led to a stronger normative power and a stronger legal status of the principle? And, if so, what does this imply for environmental decision-making at the international level?

There is a relative consensus among legal scholars that the principle of sustainable development in and of itself cannot be used to solve complex environmental disputes. Sands and his colleagues, for example when discussing references to sustainable development in biodiversity related

instruments, reached this conclusion: 'The fact that so many species and natural resources are in fact not sustainably managed illustrates the difficulty in translating the concept of sustainable development into a practical conservation tool'.[123] Interestingly, this statement of 'fact' suggests that the many references to sustainable development in the relevant instruments are difficult to implement rather than ignored. That the principle does not give sufficient guidance is also shown by Baetens in her analysis of the *Iron Rhine* arbitration. Both sides relied on the principle of sustainable development to support the legality of the state's conduct. Belgium argued that its request for reactivation of the railway line was motivated by a desire to protect the environment, for example because transportation across railroads is cleaner than air and road transport. The Netherlands equally invoked its pursuit of sustainable development as a legitimate ground for its decision to block the reactivation of the railway line for nature conservation purposes.[124]

Some commentators, it has already been noted, have argued that the concept of sustainable development should not be regarded as a legal principle. The author of this chapter in earlier commentary adopted this view by arguing that sustainable development should be seen as an ideal – or a value – that needs to be made more concrete through legal principles and legal rules.[125] Environmental principles such as the prevention principle, the precautionary principle and the polluter pays principle are principles that could play such an 'implementing' role.

The foregoing overview of the use of sustainable development in legal texts and in judicial interpretations indicates that such 'translation' of the concept into more concrete legal principles has emerged as a common practice. The role of the integration principle seems to have been especially important because this principle forces authorities actively to integrate environmental objectives into economic and developmental policies and decisions. Courts and drafters of treaties and of other legal instruments at the various levels of governance seem to regard sustainable development as the ultimate goal that can only be achieved when a number of more concrete principles and rules are applied. These include a precautionary approach or the precautionary principle; the requirement to carry out an environmental impact assessment; and the prevention principle.

The explanations given by many commentators of the meaning of the concept of sustainable development refer in addition to a series of principles or elements all of which are aimed at making the concept of sustainable development more concrete and more easily applicable in particular sets of circumstances. Consider three examples. Sands and his colleagues have distinguished four recurring 'legal elements of the

concept of sustainable development'. These are the principle of intergenerational equity, the principle of sustainable or wise use, the principle of intragenerational equity and the principle of integration.[126] Birnie and her colleagues have listed the following elements of sustainable development: the integration principle, the right to development, the principle of sustainable utilization and intergenerational equity.[127] Schrijver, even more ambitiously, has come up with 'seven main elements of the concept of sustainable development'. These are the sustainable use of natural resources; sound macro-economic development; environmental protection; the time dimension – that is temporality, longevity and promptness; public participation and human rights; good governance; and integration and interrelatedness.[128]

There is much commonality among these principles and elements. In addition these lists link up nicely with the way drafters of legal texts and judicial institutions have dealt with the concept of sustainable development over recent years. On the one hand, it shows that sustainable development is not so vague that it has no legal meaning in decision-making processes. On the other hand, it shows that sustainable development becomes useful only when it is linked to more specific principles and rules. In practice, it has even become possible to develop detailed sets of indicators to measure sustainability.[129]

CONCLUSION

The question that forms the basis of this chapter – the status of the principle of sustainable development – has to be answered in the affirmative. Increased reference to sustainable development – sometimes as a principle but more often as an objective or a concept – has indeed led to its stronger normative power and its stronger legal status. The integration of environmental concerns into decision-making processes has been broadly accepted and it can authoritatively be seen as a firm legal duty. Although many commentators probably think that this process has not gone fast enough, it is the view of the author of this chapter that an extrapolation of the use of the principle of sustainable development will see a further increase of its impact upon judicial reasoning and upon how legal texts will be drafted in the near future.

NOTES

1. Fitzmaurice (2009, p. 67); Dupuy and Viñuales (2015, p. 79).
2. Bell and McGillivray (2006, p. 63).
3. Birnie, Boyle and Redgwell (2009, p. 127); Ellis (2008).
4. Epiney (2006, p. 27).
5. Verschuuren (2003, p. 37).
6. Lowe (1999, p. 31); Marceau and Morosini (2013, p. 60).
7. Schrijver (2008, p. 220).
8. Sands et al. (2012, pp. 208, 217).
9. Bosselman (2013, p. 43);
10. There is no attempt to provide a full list here but instead to refer to some selected sources that deal with the principle of sustainable development in a comprehensive way with specific and detailed attention to its legal status: Bosselman (2013); Cordonier Segger and Khalfan (2004); Handl (1995); Malanczuk (1995); Matsui (1995); Sands et al. (2012); Schrijver (2008); Verschuuren (2003); Voigt (2009).
11. Authors often refer to a German book on forestry by Von Carlowitz (1713) as the first publication in which sustainable production is advocated. When focusing on legal sources, late nineteenth-century international agreements in the sphere of hunting are often mentioned as early appearances of the idea of sustainability: see, for instance, Sands et al. (2012, p. 206).
12. Meadows et al. (1972, p. 157).
13. Ibid. (p.22).
14. Goldsmith et al. (1972, para.166).
15. Declaration of the United Nations Conference on the Human Environment, Stockholm, 16 June 1972, UN Doc. A/CONF. 48/14/REV. 1 (1972).
16. Ibid., preambular paras 3 and 6 respectively.
17. UNEP Governing Council Decision 20(III) of 2 May 1975.
18. The terms 'sustainable utilisation' and 'sustainable development' were explicitly mentioned in the 1983 International Tropical Timber Agreement and the 1985 ASEAN Agreement respectively; Sands et al. (2012, p. 211).
19. World Commission on Environment and Development (1987, p. 8).
20. Ibid. (p.46).
21. Ibid. (p.ix).
22. Ibid. (p.8).
23. Ibid. (p.8).
24. Distr. Gen. A/Conf. 151/5/Rev. 1, Rio de Janeiro, 13 June 1992.
25. Distr. Gen. A/CONF. 199/20.
26. This outcome document was endorsed by the UN General Assembly in Resolution 66/288 of 27 July 2012, Distr. Gen. A/RES/66/288.
27. Convention on Biological Diversity (CBD) (Rio de Janeiro, 5 June 1992), (1992) 31 ILM 818, entered into force 29 December 1993.
28. United Nations Framework Convention on Climate Change (UNFCCC) (New York, 9 May 1992), (1992) 31 ILM 849, entered into force 21 March 1994.
29. CBD, art.2. This definition was later copied in other conventions, such as the Agreement for the Conservation of African-Eurasian Migratory Waterbirds (The Hague, 16 June 1995), (1995) 6 YIEL 504, entered into force 16 June 1995.
30. Cartagena Protocol on Biosafety to the Convention on Biological Diversity (Cartagena, 29 January 2000), (2000) 39 ILM 1027, entered into force 11 September 2003, art.12.
31. Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological

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Diversity (Nagoya, 29 October 2010), UNEP/CBD/COP/DEC/X/1, entered into force 12 October 2014, art.9.

32. Article 3(5) reads: 'The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties'.
33. UNFCCC, art.4(1)(d).
34. UNFCCC, art.4(2)(a).
35. Kyoto Protocol to the United Nations Convention on Climate Change, UN Doc. FCCC/CP/1997/7/Add. 1 (Kyoto, 10 December 1997), (1998) 37 ILM 22, entered into force 16 February 2005.
36. Kyoto Protocol, art.12(2): 'The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention'.
37. Distr. Gen. FCCC/KP/CMP/2005/8/Add.1, 30 March 2006, Decision 3/CMP.1, Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol, Annex at 15.
38. There has been much research into this issue. By way of example, reference is made to Sutter and Parreño (2007, pp. 75–90) who concluded: 'While a large part (72%) of the total portfolio's expected Certified Emission Reductions (CERs) are likely to represent real and measurable emission reductions, less than 1% are likely to contribute significantly to sustainable development in the host country'. Authors used three sustainability criteria for their assessment: employment generation, distribution of CER returns and improvement in local air quality.
39. See UNFCCC's website at http://climate-l.iisd.org/news/unfccc-publishes-tool-for-elaborating-cdms-sustainable-development-benefits/.
40. ,United Nations Convention on the Law of the Sea (UNCLOS) (Montego Bay, 10 December 1982), (1982) 21 ILM 1261, entered into force 16 November 1994, art.61. The same applies to the high seas: art.119.

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41. Maunder (2008, pp. 2292–6).
42. Ibid.
43. Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (New York, 4 August 1995), (2003) 2167 UNTS 3, entered into force 11 December 2001.
44. Ibid., art.2.
45. The Convention for the Protection of the Marine Environment of the North-East Atlantic (Paris, 22 September 1992), (1993) 32 ILM 1072, entered into force 25 March 1998. Annex V entered into force 30 August 2000. In its arts 2 and 3(1)(b)(iii), the Annex takes over CBD terminology including the phrase 'conservation and sustainable use of biological diversity'.
46. Resolution 69/109, Distr. Gen. A/RES/69/109, 6 February 2015.
47. Convention on Persistent Organic Pollutants (Stockholm, 22 May 2001), (2001) 40 ILM 532, entered into force 17 May 2004, art.13(4).
48. UN Convention on the Law of the Non-navigational Uses of International Watercourses (New York, 21 May 1997), (1997) 36 ILM 700, entered into force 17 August 2014, art.5.
49. Protocol on Strategic Environmental Assessment to the Espoo Convention on Environmental Impact Assessment in a Transboundary Context (Kiev, 21 May 2003), (2003) UN Doc. ECE/MP.EIA/2003/2, 85, entered into force 11 July 2010, art.1.

50. Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (Lugano, 21 June 1993), (1993) 32 ILM 1228, not yet entered into force.
51. Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London, 7 November 1996), (1997) 36 ILM 1, entered into force 24 March 2006.
52. Convention on Access to Information, Public Participation and Decision-Making and Access to Justice in Environmental Matters (Aarhus, 25 June 1998), (1999) 38 ILM 517, entered into force 30 October 2001.
53. Agreement Establishing the World Trade Organization (WTO) (Marrakesh, 15 April 1994), (1994) 33 ILM 1125, entered into force 1 January 1995.
54. de Sadeleer (2002, p. 343). For the latest developments in the Doha Round negotiations, see the WTO website https://www.wto.org/english/tratop_e/envir_e/envir_negotiations_e.htm.
55. Sands et al. (2012, p. 867).
56. Constitutive Act of the African Union, adopted by the 36th ordinary session of the assembly of heads of state, Lomé (Togo), 11 July 2000, art.3(j).
57. See in more detail Scholtz and Verschuuren (2015, pp. 102, 116).
58. For a full overview see de Windt and Orellana (2015, p. 131).
59. Inter-American Program for Sustainable Development, adopted 11 May 2007, OEA/XLIII.1.
60. Declaration of Santo Domingo for the Sustainable Development of the Americas, adopted 19 November 2010, OEA/Ser.K/XVIII.2.
61. ASEAN Declaration on Environmental Sustainability, adopted 20 November 2007; http://www.asean.org/news/item/asean-declaration-on-environmental-sustainability.
62. Boer (2015, p. 215).
63. Sustainable development was first acknowledged as an overarching objective of EU policies in the Treaty of Amsterdam amending the Treaty establishing the European Community, (1997) OJ C 340/173, introducing this objective in art.2 of the EC Treaty.
64. Consolidated version of the Treaty on European Union, (2012) OJ C 326/13: 'Determined to promote economic and social progress for their peoples, taking into account the principle of sustainable development and within the context of the accomplishment of the internal market and of reinforced cohesion and environmental protection, and to implement policies ensuring that advances in economic integration are accompanied by parallel progress in other fields'.
65. TEU, art.(3): 'The Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance …'.
66. TEU, art.3(5): 'In its relations with the wider world, the Union shall uphold and promote its values and interests and contribute to the protection of its citizens. It shall contribute to peace, security, the sustainable development of the Earth, solidarity and mutual respect among peoples, free and fair trade, eradication of poverty and the protection of human rights, in particular the rights of the child, as well as to the strict observance and the development of international law, including respect for the principles of the United Nations Charter'.
67. TEU, art.21(2)(d) and (f), respectively.
68. Jans and Vedder (2012, p. 8).
69. Epiney (2006, p. 27).
70. European Commission, *A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development*, COM(2001)264 final.

71. European Council, DOC 10917/06.
72. European Commission, *Mainstreaming sustainable development into EU policies: 2009 Review of the European Union Strategy for Sustainable Development*, COM(2009) 400 final. For an overview and links to all relevant EU documents on the sustainable development strategy, see http://ec.europa.eu/environment/eussd/.
73. Ibid (p.3).
74. European Commission, *Europe 2020. A strategy for smart, sustainable and inclusive growth*, COM(2010) 2020. One of the policy objectives, for instance, is to create a resource-efficient Europe 'to help decouple economic growth from the use of resources, support the shift towards a low carbon economy, increase the use of renewable energy sources, modernise our transport sector and promote energy efficiency'.
75. Consolidated version of the Treaty on the Functioning of the European Union, (2012) OJ C 326/47.
76. TFEU, art.191(2). See extensively, Verschuuren (2003) and de Sadeleer (2002).
77. European Council, DOC 10917/06, at 5. These principles were copied from the European Commission's *Draft Declaration on Guiding Principles for Sustainable Development*, COM(2005) 218 final.
78. Charter of Fundamental Rights of the European Union, (2012) OJ C 326/391.
79. Directive 2004/35/EC of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, OJ L 143/56.
80. Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, OJ L 197/30.
81. For a much broader overview of the ICJ's case law, see Schrijver (2015).
82. *Pulp Mills* case (para.103).
83. Ibid. (para.55).
84. Ibid. (para.75).
85. *Danube Dam* case (paras 140–1).
86. *Pulp Mills* case (para.177).
87. See in more detail, Tladi (2015).
88. See in more detail, Baetens (2015).
89. *Iron Rhine* arbitration (para.58).
90. Ibid. (para.59).
91. Ibid. (para.222).
92. Ibid. (para.223).
93. E.g. *Southern Bluefin Tuna* cases (*New Zealand v Japan; Australia v Japan*), Order of 27 August 1999, cases no.3 and 4.
94. SRFC Advisory Opinion (2015, para.190).
95. Ibid. (para.208).
96. Ibid.
97. Ibid. (para.198).
98. *MOX Plant* case (*Ireland v United Kingdom*), Order of 3 December 2001, case no.10; Case concerning land reclamation by Singapore in and around the Straits of Johor (*Malaysia v Singapore*), Order of 8 October 2003, case no.12; *'Arctic Sunrise'* case (*Kingdom of The Netherlands v Russian Federation*), Order of 22 November 2013, case no.22. For a detailed overview of all cases, see Stephens and Jaeckel (2015).
99. *US Shrimp Turtle* case (para.12).
100. Ibid. (para.67).
101. Ibid. (para.129).
102. Ibid. (para.153).
103. Ibid. (para.131).

104. Ibid. (para.129) where the Appellate Body referred to principle 4 of the Rio Declaration. On the principle of integration and the WTO, see more extensively Grosse Ruse-Khan (2015).
105. Gehring (2015).
106. Avilés (2012, pp. 32–3). Although he sets out to discuss case law on the 'principle of sustainable development', Avilés discusses case law only on other principles,
107. Text search on 'sustainable development' in all judgments by the CJEU (excluding opinions of the Advocate General), 31 July 2015 through the CJEU case law search form, http://curia.europa.eu/juris. Note that not all judgments are available in English, so the search does not cover all judgments.
108. Recent examples are: Case C-369/14 *Sommer Antriebs- und Funktechnik v Rademacher Geräte-Elektronik*, 16 July 2015; Case C-461/13 *Bund für Umwelt und Naturschutz Deutschland v Bundesrepublik Deutschland*, 1 July 2015.
109. *Green Network* case (para.109).
110. *First Corporate Shipping* case (Advocate General, para.53).
111. Ibid. (para.54).
112. Ibid. (para.57).
113. Verschuuren (2015, pp. 363, 385).
114. Scholtz and Verschuuren (2015, p. 116).
115. Meijknecht (2015, p. 219).
116. Sarlet and Fensterseifer (2009, p. 257).
117. Carballo (2009, p. 283).
118. Bosselman (2009, p. 368).
119. Hassan and Hassan (2009, p. 396).
120. *Urgenda* case (para.2.38).
121. Ibid. (para.4.8).
122. Ibid.
123. Sands et al. (2012, p. 211).
124. Baetens (2015).
125. Verschuuren (2005).
126. Sands et al. (2012, p. 207).
127. Birnie et al. (2009, p. 116.)
128. Schrijver (2008, p. 208).
129. Many different instruments to measure sustainability have been developed and are applied in practice. See the overview provided through http://www.measuring sustainability.org.

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